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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/769,917	01/25/2001	Noriaki Matsui	1232-4675	6157

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EXAMINER

THOMPSON, JAMES A

ART UNIT	PAPER NUMBER
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2624

DATE MAILED: 03/07/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/769,917	MATSUI ET AL.	
	Examiner	Art Unit	
	James A. Thompson	2625	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 December 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) _____ is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3-9,15,17-23,26 and 27 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 January 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|-----------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 27 December 2005 have been fully considered but they are not persuasive. Examiner agrees with Applicant that the present amendments to the claims overcome the prior art rejections under 35 USC §103(a) as being unpatentable over Kumashiro (US Patent 5,864,408) in view of Kerschner (US Patent 5,995,243) presented in the previous office action, dated 22 September 2005 and mailed 04 October 2005. Neither Kumashiro nor Kerschner teach that the second reference member is scanned only once for acquiring shading correction data in a main scanning direction, as recited in claim 1. However, additional prior art has been discovered which renders the present claims obvious to one of ordinary skill in the art at the time of the invention. Accordingly, new grounds of rejection are presented below. The new grounds of rejection have been necessitated by the present amendments to the claims.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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3. Claims 1, 3-9, 15, 17-23 and 26-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kumashiro (US Patent 5,864,408) in view of Webb (US Patent 5,336,976) and Nisimura (US Patent 5,513,018).

Regarding claims 1 and 15: Kumashiro discloses an image reading apparatus (figure 1 and figure 2 of Kumashiro) comprising a light source adapted to illuminate an original (column 8, lines 25-29 of Kumashiro); an image scanner (figure 1(21) of Kumashiro) adapted to scan said original (column 6, lines 23-26 of Kumashiro) and output electrical signals (column 6, lines 33-36 of Kumashiro); a first reference member (figure 1(14) and column 6, lines 1-3 of Kumashiro) which is arranged in an original scanning area of said image sensor in a sub-scanning direction (column 6, lines 3-8 and lines 20-25 of Kumashiro); a second reference member (figure 1(20) of Kumashiro) which is arranged in an area other than the original scanning area of said image sensor (column 6, lines 15-18 of Kumashiro) in the sub-scanning direction (column 6, lines 23-26 of Kumashiro); a memory (figure 2(35(portion)) of Kumashiro) adapted to store a predetermined time (column 12, lines 30-34 and lines 54-57 of Kumashiro) since said light source is turned on (column 12, lines 30-38 and lines 54-57 of Kumashiro); a timer (figure 2(35(portion)) of Kumashiro) adapted to measure an on time since said light source is turned on (column 12, lines 61-64 of Kumashiro); and a controller (figure 2(35(portion)) of Kumashiro) adapted to determine whether the time measured by said timer reaches the predetermined time (column 12, lines 61-64 of Kumashiro), in the case that the predetermined time has not elapsed, control said image sensor to scan said first reference member illuminated by said light source (column 12,

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line 62 to column 13, line 1 of Kumashiro) for acquiring a coefficient for uniformly changing level of the electrical signals (column 11, lines 5-13 of Kumashiro), and in a case that the predetermined time has elapsed, control said image sensor to scan said second reference member illuminated by said light source for acquiring shading correction data in a main scanning direction (column 13, lines 1-7 of Kumashiro).

Kumashiro teaches that the CPU (figure 2(35) of Kumashiro) controls the overall system (column 6, lines 60-63 of Kumashiro). Therefore, the memory, timer and controller are the specific portions of the associated physically embodied software and/or associated computer memory, which is used by the CPU to execute the functions corresponding to the memory, timer and controller.

Kumashiro does not disclose expressly that said predetermined time is the time since said light source is turned on until a maximum of electrical signals output from said image sensor at the time said light source is turned on changes a predetermined rate; and that said second reference member is scanned only once for acquiring said shading correction.

Webb discloses determining an amount of time since a scanner light source is turned on until a maximum of electrical signals output from said image sensor at the time said light source is turned on changes a predetermined rate (figure 5 (control range) and column 4, lines 28-35 of Webb).

Kumashiro and Webb are combinable because they are from the same field of endeavor, namely the control of a digital image scanner light source. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to set the predetermined time taught by Kumashiro specifically to

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the time it takes the light source of a scanner to reach a controllable steady-state range, as taught by Webb. The motivation for doing so would have been to let the light intensity stabilize before measuring the second reference patch (figure 5(control range) and column 4, lines 28-35 of Webb; and figure 4a; column 8, lines 25-30; and column 12, lines 30-38 and lines 54-57 of Kumashiro). In both Kumashiro and Webb, the light intensity varies after the light source is turned on (figure 5(control range) and column 4, lines 28-35 of Webb; and figure 4a; column 8, lines 25-30 of Kumashiro). In Kumashiro, it is desired to wait until a predetermined time, usually corresponding to the time it takes to scan a few document pages, before scanning the second reference patch (column 12, lines 30-38 and lines 54-57 of Kumashiro). As can clearly be seen from figure 4a of Kumashiro, the level of decay of the amount of light from the light source stabilizes after the first four or five sheets. Thus, one of ordinary skill in the art at the time of the invention would clearly have been motivated to set the predetermined time taught by Kumashiro specifically to the time it takes for illumination level of the light source to stabilize, as taught by Webb. Therefore, it would have been obvious to combine Webb with Kumashiro.

Kumashiro in view of Webb does not disclose expressly that said second reference member is scanned only once for acquiring said shading correction.

Nisimura discloses only recalibrating the light source of a scanner when the light amount of the light source is beyond the range of the predetermined reference values (figure 4(S3,S4,S6,S7) and column 6, lines 31-44 of Webb).

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Kumashiro in view of Webb is combinable with Nisimura because they are from the same field of endeavor, namely the control of a digital image scanner light source. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to recalibrate the light source only when the light amount of the light source is beyond a predetermined range, as taught by Nisimura. Since, according to Kumashiro in view of Webb, the second reference patch is not scanned until the light amount of the light source has stabilized, then the second reference patch will only be scanned once. Since the light amount of the light source is stabilized, and a recalibration only occurs when the light amount of the light source is beyond a predetermined range, then due to the stability of the light amount, recalibration will never occur after the first reading of the second reference patch. The motivation for doing so would have been to reduce the standby time of a scanner, thus reducing the amount of time it takes to scan a set of documents (column 1, lines 48-64 of Nisimura). Therefore, it would have been obvious to combine Nisimura with Kumashiro in view of Webb to obtain the invention as specified in claims 1 and 15.

Further regarding claim 15: The apparatus of claim 1 performs the method of claim 15.

Regarding claims 3 and 17: Kumashiro discloses a correction unit (figure 2(24) and column 6, lines 30-34 of Kumashiro) which uses the shading correction data to perform shading correction (column 6, lines 38-47 of Kumashiro) on the electrical signals output from said image sensor (column 6, lines 39-45 of Kumashiro).

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Regarding claims 4 and 18: Kumashiro discloses that said first and second reference members comprise white plates (column 6, line 1 and line 15 of Kumashiro).

Regarding claims 5 and 19: Kumashiro discloses that said first reference member is arranged at an end portion of a main scanning direction (column 6, lines 1-3 of Kumashiro).

Regarding claim 6: Kumashiro discloses that the determination by said controller is performed before each original sheet is read (column 9, lines 24-31 of Kumashiro).

Regarding claim 20: Kumashiro discloses that said determination is performed before each original sheet is read (column 9, lines 24-31 of Kumashiro).

Regarding claims 7 and 21: Kumashiro discloses a feeder (column 5, lines 51-56 of Kumashiro) capable of successively supplying a plurality of original sheets (column 5, lines 64-67 of Kumashiro), wherein said controller performs said determination (column 9, lines 24-31 of Kumashiro) in a case that said feeder supplies each original sheet to a predetermined position (column 6, lines 11-14 of Kumashiro).

Regarding claims 8 and 22: Kumashiro discloses determining whether an original sheet is a first document sheet after the light source is turned on (figure 4a("First Sheet") and column 10, lines 63-67 of Kumashiro), wherein in a case that the original sheet is determined to be the first original sheet, said controlling of said image sensor to scan the second reference member illuminated by said light source is executed before the start of read of the original sheet regardless of a result of determining whether the measured time reaches the predetermined time (column 10, lines 63-67 of Kumashiro).

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Regarding claim 9: Kumashiro discloses that, in a case that the first original sheet is to be read after said light source is turned on (figure 4a("First Sheet") and column 10, lines 63-67 of Kumashiro), and the predetermined time has not elapsed (column 12, lines 30-34 of Kumashiro), said controller skips controlling said image sensor to scan said first reference member illuminated by said light source for acquiring the coefficient for uniformly changing level of the electrical signals (column 8, line 66 to column 9, line 6 of Kumashiro). The second reference member is used for the reference white when the first sheet is read (column 8, line 66 to column 9, line 2 of Kumashiro). Reading the first reference member is skipped until after the first document has been fully read (column 9, lines 2-6 of Kumashiro).

Regarding claim 23: Kumashiro discloses that, in a case that the original sheet is determined to be the first document sheet (figure 4a("First Sheet") and column 10, lines 63-67 of Kumashiro), said controlling of said image sensor to scan the first reference member illuminated by said light source for acquiring a coefficient for uniformly changing level of the electrical signals is skipped regardless of the result of determining whether the measured time reaches the predetermined time (column 8, line 66 to column 9, line 6 of Kumashiro). The second reference member is used for the reference white when the first sheet is read (column 8, line 66 to column 9, line 2 of Kumashiro). Scanning the first reference member is skipped until after the first document sheet has been fully read (column 9, lines 2-6 of Kumashiro). Skipping the first reference member is always done for the first document sheet, and is therefore

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done regardless of the result of determining whether the measured time reaches the predetermined time.

Regarding claims 26 and 27: Kumashiro discloses an image reading apparatus (figure 1 and figure 2 of Kumashiro) comprising a light source adapted to illuminate an original (column 8, lines 25-29 of Kumashiro); an image scanner (figure 1 (21) of Kumashiro) adapted to scan said original (column 6, lines 23-26 of Kumashiro) and output electrical signals (column 6, lines 33-36 of Kumashiro); a reference member (figure 1(20) of Kumashiro) which is arranged in an area other than an original scanning area of said image sensor (column 6, lines 15-18 of Kumashiro) in the sub-scanning direction (column 6, lines 23-26 of Kumashiro); a memory (figure 2(35(portion)) of Kumashiro) adapted to store a predetermined time (column 12, lines 30-34 and lines 54-57 of Kumashiro) since said light source is turned on (column 12, lines 30-38 and lines 54-57 of Kumashiro); a timer (figure 2(35(portion)) of Kumashiro) adapted to measure an on time since said light source is turned on (column 12, lines 61-64 of Kumashiro); and a controller (figure 2(35(portion)) of Kumashiro) adapted to determine whether the time measured by said timer reaches the predetermined time (column 12, lines 61-64 of Kumashiro), and in a case that the predetermined time has elapsed, control said image sensor to scan said reference member illuminated by said light source for acquiring shading correction data in the main scanning direction (column 13, lines 1-7 of Kumashiro).

Kumashiro teaches that the CPU (figure 2(35) of Kumashiro) controls the overall system (column 6, lines 60-63 of Kumashiro). Therefore, the memory, timer and controller are the specific portions of the associated physically embodied software

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and/or associated computer memory, which is used by the CPU to execute the functions corresponding to the memory, timer and controller.

Kumashiro does not disclose expressly that said predetermined time is the time since said light source is turned on until a maximum of electrical signals output from said image sensor at the time said light source is turned on changes a predetermined rate; and that said reference member is scanned only once for acquiring said shading correction.

Webb discloses determining an amount of time since a scanner light source is turned on until a maximum of electrical signals output from said image sensor at the time said light source is turned on changes a predetermined rate (figure 5(control range) and column 4, lines 28-35 of Webb).

Kumashiro and Webb are combinable because they are from the same field of endeavor, namely the control of a digital image scanner light source. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to set the predetermined time taught by Kumashiro specifically to the time it takes the light source of a scanner to reach a controllable steady-state range, as taught by Webb. The motivation for doing so would have been to let the light intensity stabilize before measuring the reference patch (figure 5(control range) and column 4, lines 28-35 of Webb; and figure 4a; column 8, lines 25-30; and column 12, lines 30-38 and lines 54-57 of Kumashiro). In both Kumashiro and Webb, the light intensity varies after the light source is turned on (figure 5 (control range) and column 4, lines 28-35 of Webb; and figure 4a; column 8, lines 25-30 of Kumashiro). In Kumashiro, it is desired to wait until a predetermined time, usually

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corresponding to the time it takes to scan a few document pages, before scanning the reference patch (column 12, lines 30-38 and lines 54-57 of Kumashiro). As can clearly be seen from figure 4a of Kumashiro, the level of decay of the amount of light from the light source stabilizes after the first four or five sheets. Thus, one of ordinary skill in the art at the time of the invention would clearly have been motivated to set the predetermined time taught by Kumashiro specifically to the time it takes for illumination level of the light source to stabilize, as taught by Webb. Therefore, it would have been obvious to combine Webb with Kumashiro.

Kumashiro in view of Webb does not disclose expressly that said reference member is scanned only once for acquiring said shading correction.

Nisimura discloses only recalibrating the light source of a scanner when the light amount of the light source is beyond the range of the predetermined reference values (figure 4(S3,S4,S6, S7) and column 6, lines 31-44 of Webb).

Kumashiro in view of Webb is combinable with Nisimura because they are from the same field of endeavor, namely the control of a digital image scanner light source. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to recalibrate the light source only when the light amount of the light source is beyond a predetermined range, as taught by Nisimura. Since, according to Kumashiro in view of Webb, the reference patch is not scanned until the light amount of the light source has stabilized, then the reference patch will only be scanned once. Since the light amount of the light source is stabilized, and a recalibration only occurs when the light amount of the light source is beyond

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a predetermined range, then due to the stability of the light amount, recalibration will never occur after the first reading of the reference patch. The motivation for doing so would have been to reduce the standby time of a scanner, thus reducing the amount of time it takes to scan a set of documents (column 1, lines 48-64 of Nisimura). Therefore, it would have been obvious to combine Nisimura with Kumashiro in view of Webb to obtain the invention as specified in claims 26 and 27.

Further regarding claim 27: The apparatus of claim 26 performs the method of claim 27.

Conclusion

4. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to James A. Thompson whose telephone number is 571-272-7441. The examiner can normally be reached on 8:30AM-5:00PM.

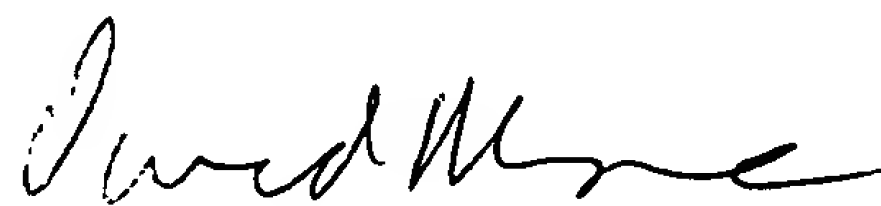
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David K. Moore can be reached on 571-272-7437. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

James A. Thompson
Examiner
Division 2625



01 March 2006



DAVID MOORE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600